MERCK INSTITUTE
FOR
THERAPEUTIC RESEARCH
RAHWAY, N. J.

November 6, 1951

Dr. Joshua Lederberg
Department of Genetics
University of Wisconsin
Madison, Wisconsin

Dear Doctor Lederberg:

We are sending to you today subcultures of the Murray strain of E. coli, including the streptomycin-sensitive and streptomycin-resistant mutants. These are not the original cultures described in the paper you cited, since those cultures had unfortunately been lost. However, the sensitive strain we now have is also a subculture from the "Murray" strain of the N. J. Agricultural Experiment Station, and the Murray resistant was derived by the same procedures originally used.

We have not retested these strains for growth response to aeration, as in Table 1. They have been checked, however, for their oxidation of pyruvate, oxalacetate, and a mixture of these, in the presence and absence of streptomycin. They were again tested this week before the subcultures were made for you, in order to verify their metabolic activity. The results on these strains are as follows:

	Q_{O_2} (N)		
	Streptomycin	Murray Sensitive	Murray Resistant
Pyruvate	-	496	216
"	+	456	240
Oxalacetate	-	328	152
"	+	32	152
Pyruvate + Oxalacetate	-	408	192
" "	+	136	232

The data on oxalacetate are higher that those in Table 2 of "The Action of Streptomycin. II." because the oxalacetate decarboxylase had not been as completely aged out.

The new "Gratia" strains which we now have are somewhat different metabolically from those previously reported, although the basic pattern, i.e. loss of the ability to oxidize pyruvate and oxalacetate beyond the oxidation state of acetate, is also characteristic of this resistant strain. We should prefer, however, to investigate these strains further before subcultures are sent.

Yours truly,

Evelyn L. Oginsky

ELO:VMF

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